

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A rotating assembly comprising:

a shaft having an insertion portion and an outer circumferential surface, said outer circumferential surface including first portions and second portions adjacent said first portions, said first portions being deformable so as to be raised outward when a force is applied to said second portions; and

a rotating member having

an inner hole with inner walls and outer walls, said inner walls being harder than said outer circumferential surface of said shaft, said inner hole having a diameter measured between opposed inner walls of said inner walls smaller than an outer diameter of said insertion portion of said shaft, said rotating member being fixed to said shaft by inserting said shaft into said inner hole in an insertion direction[[:]],

wherein a diameter of said inner hole is smaller than an outer diameter of said insertion portion of said shaft, and a plurality of a plurality of grooves in areas opposite to said first portions of said outer circumferential surface, said grooves extending in the insertion direction are disposed on one of said inner hole and said outer circumferential surface of said shaft; and

first and second large-diameter escape portions in said inner hole, said first and second large-diameter escape portions extending in a circumferential direction of said inner hole for at least a length equal to a circumferential length of two adjacent grooves of said plurality of grooves,

wherein after the diameter of said inner hole is expanded by heating said rotating member, said shaft is inserted into said inner hole, and said rotating member is cooled to reduce the diameter of said inner hole, and said one of said inner hole and said outer circumferential surface of said shaft having said plurality of grooves presses and raises the other of said inner hole and said outer circumferential surface of said shaft, such that said other of said inner hole and said outer circumferential surface of said shaft enters said plurality of inner walls press said second portions of said outer circumferential surface such that said first portions are raised and inserted in said grooves so that said rotating member is fixed to said shaft[[:]],

wherein said rotating member is a cam piece having an outer circumferential surface with a portion of said outer circumferential surface of said rotating member having a cam profile, said

cam profile extending from a first location on said outer circumferential surface of said rotating member to a second location on said outer circumferential surface of said rotating member,

wherein ~~a said first and second large-diameter escape portion in said inner hole is portions are disposed radially inward of one of said first and second locations, respectively, so that and said first and second large-diameter escape portion is portions are radially opposed to each other, and said first and second large-diameter escape portions are configured to prevent contact with said outer circumferential surface of said shaft when said rotating member is fixed to said shaft,~~

~~wherein said escape portion has a circumferential length that is at least equal to a circumferential length of two adjacent grooves of said plurality of grooves, and~~

wherein said plurality of grooves and ~~said first and second escape portion portions~~ extend through an entire thickness of said rotating member.

2-3. (Cancelled)

4. (Previously Presented) The rotating assembly according to claim 1 wherein a hardness of the inner hole of the cam piece is higher than a hardness of the outer circumferential surface of the shaft.

5-10. (Cancelled)

11. (Currently Amended) A rotating assembly comprising:

a shaft having an insertion portion, said insertion portion having an outer diameter and an outer circumferential surface, said outer circumferential surface including first portions and second portions adjacent said first portions, said first portions being deformable so as to be raised outward when a force is applied to said second portions;

a rotating member having a plurality of grooves and an inner hole with inner and outer walls, said inner walls being harder than said outer circumferential surface of said shaft, and said inner hole having a diameter measured between opposed inner walls of said inner walls that is smaller than the outer diameter of said insertion portion, and said rotating member being fixed onto said shaft by inserting said shaft into said inner hole of said rotating member in an insertion

direction[[;]] and [[a]] said plurality of grooves extending in the insertion direction, said plurality of grooves being positioned on said inner hole in areas opposite said first portions of said outer circumferential surface;

wherein after the diameter of said inner hole is expanded by heating said rotating member, said shaft is inserted into said inner hole, and said rotating member is cooled to reduce the diameter of said inner hole, wherein said inner walls press said second portions of said outer circumferential surface such that said first portions are raised and inserted into said plurality of grooves ~~are pressed into said shaft~~ so that said inner hole is fixed to said outer circumferential surface of said insertion portion,[[;]]

wherein said rotating member is a cam piece having an outer circumferential surface with a portion of said outer circumferential surface of said rotating member having a cam profile, said cam profile extending from a first location on said outer circumferential surface of said rotating member to a second location on said outer circumferential surface of said rotating member,

wherein a-first and second large-diameter escape portion portions are disposed in said inner hole ~~is disposed~~ inward of ~~one~~ of said first and second locations, respectively, and said first and second large-diameter escape portion isportions are radially opposed to one another and configured to prevent contact with said outer circumferential surface of said shaft when said rotating member is fixed to said shaft,

wherein each of said first and second escape portion portions has a circumferential length that is at least equal to a circumferential length of two adjacent grooves of said plurality of grooves, and

wherein said plurality of grooves and said first and second escape portion portions extend through an entire thickness of said rotating member.

12-14. (Cancelled)

15. (Previously Presented) The rotating assembly according to claim 11, wherein a hardness of said inner hole of said cam piece is higher than a hardness of said outer circumferential surface of said shaft.

16. (Withdrawn) The rotating assembly according to claim 11, wherein each of said plurality of grooves is formed in a circular shape.

17. (Withdrawn) The rotating assembly according to claim 11, wherein each of said plurality of grooves is formed in a triangular shape.

18. (Previously Presented) The rotating assembly according to claim 11, wherein each of said plurality of grooves is formed in a trapezoidal shape.

19. (Previously Presented) The rotating assembly according to claim 1, wherein each of said plurality of grooves has one of a trapezoidal shape, a circular shape, and a triangular shape.